DOCUMENT RESUME

ED 131 510 CS 501 553

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TITLE The Development of Pre-Requisite Abilities for Comprehending and Producing Multiordinal Terms.
PUB DATE 76
NOTE 15p.

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS Abstraction Levels; *Child Language; Cognitive Development; Early Childhood Education; Elementary Secondary Education; *Language Development; Literature Reviews; *Semantics; Verbal Development
IDENTIFIERS Korzybski (Alfred)

ABSTRACT

The multiordinal use of terms requires the ability to distinguish essential relationships and attributes from incidental ones. Until the child reaches adolescence, his tendency to confuse incidental and affective factors with those crucial to word meaning hinders his use of terms at all levels of abstraction. Korzybski's theory of multiordinality implies that one must be able both to analyze and synthesize. While theories of cognitive growth differ as to which of these abilities comes first, the young child appears to have difficulty in coordinating these two processes. As a result, meanings are often over- or underdifferentiated, preventing the use of lexical items in a variety of contexts and levels of abstraction. Children cannot recognize terms as being multiordinal as long as they do not understand that some meanings are context dependent. Three to seven year olds often fail to take this into account when using pronouns, deictics, or relative adjectives. The age at which children learn that multiordinal terms like "problem," "fact," and "reality" are dependent upon context for their meaning is unknown.
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The Development of Pre-Requisite Abilities for Comprehending and Producing Multiordinal Terms

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The Development of Pre-Requisite Abilities for Comprehending and Producing Multiordinal Terms

The multiordinality of terms has been described as "the fundamental mechanism of the full conditionality of human semantic reactions" (Korzybski, 1948, p. 15). Multiordinal terms have different meanings depending upon the order of abstraction and the context in which they are used. Recognizing terms such as "yes," "no," "learning," and "knowledge" as being multiordinal leads to versatility in expression, economy of time and effort, the elimination of semantic blockages and formal definitions, and the preservation of extensional, one-valued meaning in any given use of terms (Korzybski, 1948, pp. 436-437).

Korzybski (1948) believed that the speech of Schizophrenics was like that of young children. He attributed the inability of schizophrenics to recognize certain terms as multiordinal to the following characteristics of their thought and language: 1) the use of lower orders of abstraction, 2) concrete use of terms which are customarily used to express higher orders of abstraction, 3) the use of a strange mixture of lower and higher orders of abstraction, and 4) the improper identification of words with their referents (Korzybski, 1948, p. 187).

Children characteristically use language in much the same way as the schizophrenic. Their language is often thought to be concrete, but they make use of words which we are accustomed to using in a more abstract fashion. Chukovsky gives such an example:

> "What do you have in your head? Straw? If it's a brain that you have, it isn't very 'decisioned.'" (1965, p. 17)

In the same utterance, children may often use a "strange mixture" of abstract and concrete language as in the following example:

> "Mama, what a beauty you are! Like a new motorcycle!" (Chukovsky, 1965, p. 52)

Adults often assume that the child has acquired meanings for words which are the same as those adults have arrived at from their experience. However, this is often not the case as can be seen when the child overextends or underextends terms. Examples of such uses are:

Overextension — "Can't you see? I'm barefoot all over!" (Chukovsky, 1965, p. 3)

Underextension — "Mommie, the nettle bites me?"
"Well, in a way . . ."
"Then why doesn't it bark too?"
(Chukovsky, 1965, p. 21)

Sometimes the child's meanings are neither over- or underextensions; they are merely different as in the following:

> "What is a knife - the fork's husband?" (Chukovsky, 1965, p. 22)

Children often use terms as context-independent when, by their nature, these terms should be context-dependent. Chukovsky reports the following dialogue between two young children which demonstrates context-dependent reflexive pronouns treated as context-independent:

> "My daddy himself told me this . . ."
> "My mommie herself told me that . . ."
> "But my daddy is himselfer than your mommie - my daddy is much more himselfer . . ." (1965, p. 1)

Recognizing that terms are multiordinal presupposes several important accomplishments which develop gradually in the child. First, one must be able to realize that the "word" is not part of the object, person, or event to which it refers, that is, one must not identify or equate the word with the "thing." Second, one must be able to differentiate what is essential to the meaning of terms from what is unimportant. Third, one must be able to synthesize as well as analyze; one must be able to see both the generalized "whole" as well as its relevant parts. Finally, one must recognize that some terms have meanings which are context-dependent.

Tracing the development of these pre-requisites to using words as multiordinal serves two main purposes: 1) it demonstrates why the child is incapable of grasping the concept of multiordinality until near puberty and, 2) it shows how several theories of the acquisition of meaning can be considered inadequate or incomplete.

The Word is Not the Object, Person, or Event

Vygotsky (1962, p. 128) stated that "the word, to the child is an integral part of the object it denotes." However, the actual relation between first-order experience (what it is we are concerned with or attending to) and the verbal labels we attach to that experience is in fact arbitrary (Bois, 1966, p. 71). For the child, this arbitrary relationship is not recognized and therefore he identifies verbal descriptions and evaluations with the objects, persons, or events themselves.

An explanation for this identification of words with objects, events, or persons can be found in Piaget's theory of intellectual development.

He posited that the child's first use of words is not symbolic. Instead, it is intimately related to his ongoing actions. As a result, the child's language must refer to present activities or to immediate desires (Ginsburg & Opper, 1969). The child must develop cognitively to the point where he can recognize that words are arbitrary descriptions or evaluations which cannot be considered as synonymous with events, objects, or persons. He develops this ability through physical interaction with his environment and through social interaction with the persons who use language in his environment.

In the early stages of language learning when meanings are derived from the physical situation, the link between speech and relevant objects and events seems very close (Wolff, 1973). As the child develops the ability to represent past and future events and uses language to express judgments or ideas that are not as directly tied to the physical situation, the link between words and their referents will become more clearly arbitrary to the child.

Differentiating the Essential From the Unimportant

Donaldson and McGarrigle (1974, p. 184) noted that "changes in the properties of the referent, which to a competent adult would be irrelevant, can produce changes in children's judgments. They found that 4-year-olds seemed to use a criterion of "fullness" when making judgments related to the terms "all" and "more," resulting in incorrect judgments. Clearly, these children failed to differentiate the essential attributes of "more" and "all" from those which are irrelevant.

Only with difficulty does the child learn to accept the fact that

certain attributes, even though they were present in his first encounters with a given concept, are really irrelevant to the concept or meaning of the word. Saltz, Soller, and Sigel (1972) found that 5- and 6-year-old children were unable to accept the notion that ladies could be doctors or that fathers could be drunkards. Affective factors appeared to influence the way in which children structured the basic attribute dimensions of these terms (Saltz, Dunin-Markiewicz, & Rourke, 1975). Children were willing to accept the labels "lady" - "doctor" and "father" - "drunkard" as belonging together because their connection involved altering the fundamental attributes or characteristics which they had previously considered to be relevant to the meanings of these terms.

Two current theories of semantic development cannot account for the child's overdiscrimination of the terms "lady," "doctor," "father," and "drunkard." These two theories are the abstraction theory and the semantic feature theory. The basic assumption of these theories is that the child observes particulars and then abstracts the features common to them to form a concept (Nelson, 1974). When the child first uses a word, he may only have one or two semantic features which serve to define the term and he will therefore overgeneralize its meaning. Gradually he acquires the number of features that are normally associated with the adult meanings of words (Clark, 1973).

The abstraction and semantic feature theories can account for shifts in the child's meanings from overgeneralization toward differentiation. However, they cannot account for the child's shifts from overdiscrimination toward integration or generalization (Saltz, Soller, & Sigel, 1972).

These theories also fail to account for how the child is able to

eventually differentiate essential from irrelevant attributes of meaning. There is no a priori guarantee that the first features the child abstracts from observing the particulars will in fact be relevant abstractions. These theories tend to lead to the conclusion that the child must possess a concept in order to abstract the appropriate attributes or features which they claim define that concept.

The child's comprehension of terms that can be used to refer to physical as well as psychological characteristics also demonstrate their initial inability to distinguish irrelevant attributes of these terms from those which are relevant at all levels of abstraction. Lesser and Drouin (1975) found that children between 3 and 4 years of age refused to use terms such as "sweet," "hard," "cold," "crooked," "bright," "dry," and "sharp" to refer to anything except objects. Children between 5 and 6 years of age acknowledged the possible use of these terms to refer to physical attributes of persons as well as objects. Thus, when asked why one might refer to a person as "cold," 5 and 6 year olds would be likely to respond by saying "because he doesn't have a coat on."

Between 7 and 12 years of age, Lesser and Drouin (1975) found that children became progressively better at understanding and stating the psycho-logical meaning of these terms. This trend contradicts abstraction and semantic feature hypotheses since the use of "double-function" terms expanded from reference which included only inanimate objects to reference which included inanimate and animate "objects" and physical as well as psychological senses of the terms. This integration of subordinate categories into a superordinate category contradicts Clark's (1973) hypothesis that the acquisition of meaning develops from superor-

dinate to subordinate categories.

The ability to distinguish relevant information associated with meaning is crucial to understanding terms as multiordinal. In the case of double-function terms "sweet," "hard," "cold," etc., the child failed to recognize the possibility of their use except in the most concrete physical sense. As long as words are defined by irrelevant and concrete attributes, their multiordinal nature cannot be discerned by the child.

Synthesis Plus Analysis

There are two opposing positions as to the direction which cognitive development takes in the child (Brown, 1958). The first posits that development proceeds from concrete to abstract concepts. The other position is that development progresses from abstract, undifferentiated concepts to concrete ones. Regardless of which of these theories is correct, the sequence in which words are acquired by the child does not necessarily correspond to either of these directions. Roger Brown states:

> . . . the sequence in which words are acquired is set by adults rather than children, and may ultimately be determined by the utility of the various categorizations. This will sometimes result in a movement toward higher abstraction and sometimes in a movement toward greater concreteness. (1958, p. 20)

Brown (1958) believes that parents select words for children on the basis of the functional structure of the child's world. Therefore, since spoons are most often treated as equivalent, parents will teach a child to say "spoon." On the other hand, since there is a functional preference

for treating houses, stores, churches, etc., as separate, parents will probably not teach children the more abstract term "building" before the more concrete ones.

While theories of cognitive development tend to posit either a concrete to abstract direction or an abstract to concrete direction of cognitive growth, Korzybski (1948, p. 482) states that "intelligence requires the passing from level to level in both directions." In other words, the child must both synthesize as well as analyze.

In order for the child to deal with the variability which he encounters in his environment, he must have a means for producing fewer "wholes" for analysis. This is accomplished by first synthesizing or forming categories. Analysis is then used for identifying instances of categories over time or for distinguishing instances which are not members of the category.

Nelson (1974) proposes that children synthesize on the basis of functional relationships. Thus, the child may note that a ball bounces and rolls. These functional relations will define the concept "ball." However, in order to recognize new instances of his functional concept "ball" the child needs to analyze the concept into its relevant parts which might include descriptive features such as shape, size, etc. The concept "ball" is a dynamic set of functional relationships while the word "ball" would be its static representation.

The young child's concepts may be as Vygotsky (1962) and Brown (1958) suggest; unorganized or primitive concepts represented by words. They are abstract as a result of failure to differentiate or analyze. Mature concepts and words, on the other hand, are abstract as a result

of sufficient differentiation or analysis. Words whose meanings are of the former primitive-abstract type cannot be used or understood as multiordinal since they cannot be used at all levels of abstraction or in a variety of contexts.

Some Meanings are Context-Dependent

There are several types of evidence that children often fail to recognize that some words depend upon a specific context for their meaning. Children will use these terms as if their meanings did not change or need to be specified.

The use of pronouns and deictics requires contextual information for determining their meaning. If the contextual information is included in the text or discourse itself, pronouns and deictics can be considered anaphoric (backwards reference) or cataphoric (forwards reference). On the other hand, if the referent is provided only in the situation and not in the language itself, then the terms are considered exophoric. Hawkins (1969) found that 5-year-old children (especially working-class children) often used exophoric reference when describing pictures. Chipman and Dardel (1974) have also noted children's difficulty in deriving the contextually defined meaning of the pronoun "it." When the experimenters said "there are twenty marbles in the box. Give it to me," children (3-7 year-olds) often responded by giving the experimenters one or more of the marbles rather than the box.

Nelson and Benedict (1974) compared 3- to 7-year-old children's ability to comprehend absolute, contrastive, and relative adjectives. They found that children had the most difficulty comprehending relative

adjectives such as "tall," "short," "fat," and "dark" since the application of these terms is relative to the context in which they are used. For example, a man is tall when compared to a child but not when compared to a building or a tree.

The young child's inability to recognize terms as context-dependent would prohibit him from discerning the extensional one-valued meanings of multiordinal terms as they would be used in specific contexts. He would be more likely to establish a "standard" meaning of a multiordinal term and apply it regardless of the particular context in which it would be used.

Summary

The ability to perceive words as multiordinal is a developmental process. Its roots lie partially in the child's increasing ability to become conscious of abstracting, recognizing that verbal descriptions and evaluations are not part of, or identical to, the objects, persons, or events they symbolize. This development begins when the child can use language to refer to absent events and to refer to "things" which are not easily correlated with the physical situation. Consciousness of abstracting continues to progress throughout childhood, adolescence, and even adulthood.

The multiordinal use of terms requires the ability to distinguish essential relationships and attributes from incidental ones. Young children often confuse incidental and affective factors with those which are crucial to meaning. Until the child reaches adolescence, his meanings of words reflect this tendency which hinders his use of terms at

all levels of abstraction.

Korzybski's theory of multiordinality implies that one must be able to both analyze and synthesize. While theories of cognitive growth differ as to which of these abilities comes first, the young child does at least appear to have difficulty in coordinating these two processes. As a result, his meanings are often over- or underdifferentiated preventing the use of lexical items in a variety of contexts and levels of abstraction.

Children cannot recognize terms as being multiordinal as long as they do not understand that some meanings are context-dependent. Three to seven-year-olds often fail to take this "fact" into account when using pronouns, deictics, or relative adjectives. The age at which children learn that multiordinal terms like "problem," "fact," and "reality" are dependent upon context for their meaning is still unknown.

Each of these pre-requisites for understanding that many of the terms in our language are multiordinal and for using them appropriately require cognitive as well as linguistic maturity. The study of linguistic and cognitive growth in children can perhaps serve to determine why some people fail to develop sufficiently in any one of these areas producing what Korzybski called "infantile" or "un-sane" semantic reactions.

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